

- 19 -

The Claims Defining The Invention Are As Follows

1. An apparatus for initiating and dispensing an incendiary from a line of series connected incendiaries, said apparatus comprising:
  - a feed mechanism for advancing a line of series connected incendiaries to a dispensing location;
  - an injection device for injecting a substance into an incendiary as said incendiary is advanced to said dispensing location, said injected substance reacting exothermically with another substance in said incendiary; and,
  - a cutter for cutting said incendiary from said line of series connected incendiaries;wherein said feed mechanism advances said incendiary, after injection with said substance and cutting from said line, to said dispensing location where said incendiary is dispensed from said apparatus.
2. The apparatus according to claim 1 wherein said feed mechanism comprises at least one recess, each recess shaped to seat a respective incendiary.
3. The apparatus according to claim 1 wherein said feed mechanism comprises a plurality of recesses, each recess shaped to seat a respective incendiary, and wherein adjacent recesses are spaced by a distance substantially equal to the distance between adjacent series connected incendiaries.
4. The apparatus according to any one of claims 1-3 further comprising a drive system for driving said feed mechanism.

- 20 -

5. The apparatus according to claim 4 wherein said drive  
The system is coupled to said injection device for  
moving said injection device between an extended  
position where said injection device penetrates said  
incendiary, and a retracted position where said  
injection device is spaced from said incendiary.
6. The apparatus according to claim 4 or 5 wherein said  
drive system is coupled to said cutter for moving said  
cutter between an extended position where said cutter  
cuts an incendiary from said line and a retracted  
position where said cutter is spaced from said line.
7. The apparatus according to claim 6 wherein said  
injection device and cutter are mounted on a slide and  
said slide is reciprocated by said drive system  
between said extended position and said retracted  
position.
8. The apparatus according to claim 7 wherein said slide  
is supported on a rail and said drive systems  
reciprocates said slide along said rail.
9. The apparatus according to any one of claims 6-8  
wherein a slot is provided between respective adjacent  
recesses in said feed mechanism over which said line  
extends when being advanced to said dispensing  
position, and said cutter is juxtaposed to extend into  
said slot to cut said line when moved to its extended  
position.
10. The apparatus according to any one of claims 6-9  
further comprising a retaining member for retaining an  
incendiary in a respective recess while said injection  
device and said cutter are moved from their respective  
extended positions to their respective retracted  
positions.

- 21 -

11. The apparatus according to claim 10 wherein said injection device extends through said retaining member when said injection device is moved to said extended position.
- 5 12. The apparatus according to claim 11 wherein said retaining member is a plate having a first portion which faces an incendiary when at a location where said injection device penetrates said incendiary.
- 10 13. The apparatus according to any one of claims 1-12 further comprising a pump for pumping a dose of said substance to an incendiary via said injection device.
- 15 14. The apparatus according to claim 13 wherein said pump is driven by said drive system.
- 15 15. The apparatus according to claim 14 wherein said pump is a peristaltic pump.
- 20 16. The apparatus according to any one of claims 4-15 wherein said drive system comprises an intermittent gear arrangement including a driver arranged for continuous rotation and a follower supporting said feed mechanism wherein for a first portion of a revolution of said driver, said driver engages said follower to rotate said follower by a fraction of a revolution, and for a remaining portion of the revolution of said driver, said follower is locked against rotation.
- 25 17. The apparatus according to claim 16 wherein said driver is coupled to said slide for reciprocating said slide along said rail.
- 30 18. The apparatus according to claim 16 or 17 further comprising a link pivotally coupled at one end to said
- 35

- 22 -

driver and pivotally coupled at an opposite end to said slide.

- 5        19. The apparatus according to any one of claims 5-18 further comprising a park system for biasing said injection device to said retracted position.
- 10       20. The apparatus according to claim 19 wherein said park system biases said driver to rotate to a position where said driver drives said slide to a location commensurate with said injection device being in said retracted position.
- 15       21. The apparatus according to any one of claims 1-20 further comprising a housing in which said feed mechanism, cutter and injection device are housed, said housing having an inlet through which said line of series connected incendiaries can enter said housing and a chute through which incendiaries are dispensed.
- 20       22. The apparatus according to any one of claims 1-21 further comprising an extinguishing system for extinguishing an incendiary into which said substance is injected.
- 25       23. The apparatus according to any one of claims 16-22 wherein said intermittent gear arrangement is a geneva gear.

30